

ber of her own club, Royal Birkdale, at the time of her premature death from cancer, which she fought with the same quiet, brave spirit that characterized her golf. As a mark of the affection in which she was held all over the golfing world, a fund was set up which raised £20,000 for the Clatterbridge Hospital in the Wirral where she received treatment.

In 1955 she married Roy Smith, a test pilot for Scottish Aviation, and they had one daughter, Caroline. Her husband was killed in a flying accident in December 1957 while the child was a baby. Frances Smith died in Southport 23 July 1978.

[*The Times* and *Guardian*, 24 July 1978.]

DONALD STEEL

SMITH, STEVIE (1902-1971), poet and novelist. [See SMITH, FLORENCE MARGARET.]

SMITH-ROSE, REGINALD LESLIE (1894-1980), physicist, was born 2 April 1894 at 7 Westbourne Gardens, Paddington, London, the younger son and youngest of four children of William Smith, church clerk, and his wife, Louisa Copp. He was educated at Latymer Upper School, Hammersmith, from which he obtained a Board of Education Royal scholarship to Imperial College in 1912. In 1914 he was awarded the Imperial College Governors' prize for physics and graduated at London University with a first class honours degree in physics. He was awarded the Ph.D. degree in 1923 and the D.Sc. in 1926. Before 1919 he changed his name to Smith-Rose.

Immediately after graduation he carried out postgraduate work at Imperial College for a short period, before going to Siemens Bros. of Woolwich, where he was employed as an assistant engineer in 1915-19. In 1919 he joined the National Physical Laboratory (NPL). He was superintendent of the radio department (1937-47) and director of the Radio Research Station, Ditton Park (1948-60). For two short periods he was acting director of the NPL. He retired in 1960.

When Smith-Rose joined the NPL, knowledge of the transmission of radio waves through the atmosphere was in an unsatisfactory state. It was not clear why the waves apparently followed the curvature of the earth, allowing communication over much greater distances than theory predicted: nor why the signal strength at the receiver varied greatly with the time of day or night. Both anomalies could be explained by postulating a conducting layer in the upper atmosphere, which would reflect radio waves, but there was no direct evidence that such a layer existed. Smith-Rose and R. H. Barfield set out to obtain such evidence by making measurements

on the direction and polarization of waves arriving at the receiver. Their first results, published in 1925, were inconclusive; but later experiments on a shorter wavelength were successful. However, by the time these later results were published, the existence of the conducting layer had already been demonstrated by other methods.

Smith-Rose's work on radio direction-finding began in 1920 when he was given responsibility for organizing a long-term study of the magnitudes and directions of signals received at a number of sites in the United Kingdom. From the analysis of some quarter of a million observations, coupled with measurements of the electrical characteristics of the ground, he was able to elucidate the causes of errors in direction-finding and to make improvements in equipment to eliminate some of these errors. As higher and higher radio frequencies came into use, so his investigations were extended to provide new data. In this field he was a world leader.

Smith-Rose was a very active member of the Institution of Electrical Engineers, which he joined in 1915 as a student. He became a member (later termed fellow) in 1936. He was a member of the wireless (later radio) section committee for four separate periods and was chairman in 1942-3. He served on numerous other committees, was a member of the council of the Institution in 1953-6 and 1960-1, and became a vice-president in 1961-4. Much of his scientific work was published in the *Proceedings* of the Institution. He was a fellow of the United States Institute of Electrical and Electronic Engineers.

For many years Smith-Rose was a British representative on two important committees which foster world-wide collaboration on radio matters—the International Union of Radio Science (URSI) and the International Radio Consultative Committee (CCIR). He was president of URSI in 1960-3 and remained an honorary president until his death. In CCIR he was chairman of the study group concerned with ground-wave propagation 1949-70 and, in 1978, when CCIR celebrated the fiftieth anniversary of its foundation, he was one of those selected for special awards for distinguished contributions to the work of the committee. It was on these and other similar committees that Smith-Rose did some of his most valuable work. It involved travel throughout the world and gained him a host of friends. He was awarded the United States medal of freedom with silver palm in 1947, for his effective collaboration with organizations in that country. He was appointed CBE in 1952.

Smith-Rose was a man of great integrity, but of rather reserved personality. He was keen on swimming and walking and, in his earlier days, on camping. After his retirement from the NPL he remained on national and international commit-

tees and travelled a great deal on their business. His leisure was devoted to his hobbies of photography and stamp-collecting and to reading. For several years he was church warden at his local church.

In 1919 he married Elsie, daughter of Sydney John Masters, restaurant proprietor; they had two daughters. He died 19 March 1980 in hospital at Banstead, Surrey.

[Private information; personal knowledge.]

C. W. OATLEY

SNOW, CHARLES PERCY, BARON SNOW (1905-1980), author and publicist, was born in Leicester 15 October 1905, the second of four sons of William Edward Snow and his wife, Ada Sophia Robinson. His father was a clerk in a shoe factory and a church organist, an FRCO. From a local elementary school Snow entered Alderman Newton's grammar school, Leicester, with a scholarship, and then studied science at the local university college (later Leicester University). He gained a first class degree in chemistry, followed by an M.Sc. (1928) in physics there, both London University external degrees, and proceeded, again by scholarship, to do postgraduate research at the Cavendish Laboratory in Cambridge. He became a fellow of Christ's College in 1930, the same year in which he gained a Ph.D. He was tutor of the college from 1935 to 1945 and was later a frequent visitor and honorary fellow. He had been a fairly good cricketer at school, and, at Cambridge, he enjoyed watching cricket at Fenner's with other bachelor dons such as G. H. Hardy [q.v.] to whom he dedicated *The Masters*; later, he became a member of the MCC.

Snow's research in infra-red spectroscopy failed, since it was built upon an intuition that careful experimental results did not confirm; in consequence he was not subsequently taken entirely seriously as a scientist. But he remained dedicated to science, with both a reasoned sympathy and a boyish enthusiasm for great scientists. His years at Cambridge coincided with a golden age of Cambridge physics, and he was starry-eyed about the achievements of the brilliant men whom he knew, and whom he thought (correctly) that the world in general and cultivated society in particular neither understood nor appreciated. It became his mission to explain their achievement. He read widely, increasingly in the body of European literature, and in the Cambridge English studies of Sir Arthur Quiller-Couch [q.v.] and Basil Willey: he adopted a posture of a cultured (and left-wing) serious interest in literature and the arts, which was deeply opposed as dilettantism by the growing body of professional scholars of English literature, especially the school represented by F. R. Leavis [q.v.], university reader in English, with whom he later had a celebrated controversy.

Snow published *Death under Sail* in 1932 and a second novel, *The Search*, in 1934, and in 1940 began what was to be a series, taking its title from the first book, *Strangers and Brothers*. It was this series that made his name.

Snow had three careers. He was a scientific administrator. He was a novelist and critic. He was a public man, much in demand to lecture, broadcast, and pontificate. Each career fed on the others. Though the *Strangers and Brothers* sequence was not directly autobiographical, each novel drew upon Snow's own experience, in *The Masters* (1951) of a Cambridge combination room, in *The Corridors of Power* (1964) of the relation between senior civil servants and politicians, in *The New Men* (1954) of the early attempts to develop a nuclear weapon. In form the novels harked back to the Victorian writers. Like Trollope, with well-described characters, scenes firmly set, and a strong plot, he deliberately avoided the lessons of Henry James and even more of James Joyce [qq.v.]. The hero, Lewis Eliot, an academic lawyer, was an idealized version of the author himself made more sensitive, given to more suffering, and more respected.

In 1939 Snow joined a group organized by the Royal Society to deploy British scientific manpower; by 1942 he was director of technical personnel at the Ministry of Labour, under Ernest Bevin [q.v.]; and from 1945 until his retirement in 1960 he was a Civil Service commissioner in charge of recruiting scientists to government service. He was also a director of English Electric, a company designing and building nuclear power stations. He was appointed CBE in 1943, knighted in 1957, and became a life peer in 1964, joining (Sir) Harold Wilson's first government as parliamentary secretary of the newly created Ministry of Technology, which was intended to bring the benefit of technological revolution to a backward nation. Both the Ministry and Snow failed, and he left the government in 1966. As a back-bencher Snow became a popular member of the House of Lords, with his ungainly figure and heavy jowled features, frequently seen in its bar and dining-room, exchanging gossip with other heavyweights.

It was this full public life, and his own chequered emotional life till his marriage, that provided the scenes and personalities of his novels. He married, on 15 October 1950, the novelist Pamela Hansford Johnson (died 1981), by whom he had a much-loved son, Philip, who to Snow's joy became a scholar of Eton. She was the daughter of R. Kenneth Johnson and had been married previously to Gordon Stewart, by whom she had a son and a daughter. Snow's novels deal much with the unhappy private and inner lives of his characters, in dissonance with their active and often successful public lives; he was an acute observer both of public and private stress. The